

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-13. (Cancelled)

14. (Currently Amended) ~~A computer-readable medium configured to execute a~~
method for providing a real time operating process for multiple tasks, said process utilizing a plurality of time sensitive observation windows wherein said tasks are processed when in said observation windows, the method comprising:

allotting a time quota in a first observation window to a first task having a high priority designation;

allotting a remaining time quota in said first observation window to remaining tasks a ~~second task~~ having priority designations a ~~priority designation~~ lower than said first task where as at least a portion of each of said second remaining tasks is guaranteed to be processed during said remaining time quota;

calculating an amount of time said first task is processed in said first observation window; and

sanctioning said first task to a subsequent observation window when said calculated amount of time exceeds said time quota in said first observation window.

15. (Previously Presented) Real time multi-task operating method in an avionic computer, the method comprising:

defining a set of fixed duration observation windows, wherein the duration of the windows are initially adjustable;

allocating a maximum execution duration time for each task in a plurality of tasks during each observation window;

allocating at least a minimum execution time for at least one lower priority task;

calculating time used by each task during each observation window;

sanctioning a task which exceeds the allocated maximum execution duration time in an observation window, wherein the sanctioned task returns to a central resource unit during a subsequent observation window.

16. (Previously Presented) The method according to claim 15, further comprising supplying a value from a global software counter, wherein the value is adjusted by adding time passed since a last clock pulse from a material counter.

17. (Previously Presented) The method according to claim 15, further comprising reallocating the task having a first reallocating point existing in a scheduling code, a second reallocating point existing in a clock pulse process interruption program, said program with a higher priority than all system tasks enabling the calculation of the time spent by the task in progress and to sanction it if its quota is exceeded.

18. (Previously Presented) The method according to claim 15, wherein sanctioning the task occurs during a task change.

19. (Previously Presented) The method according to claim 15, wherein sanctioning the task occurs during duration of a clock pulse.

20. (Previously Presented) The method according to claim 15, wherein sanctioning the task includes either reducing a priority of the task, stopping the task or eliminating the task.

21. (Previously Presented) The method according to claim 15, further comprising initializing the operating process, the initializing including:
starting reallocation procedures;
launching the task; and
configuring a duration of each observation window.

22. (Previously Presented) The method according to claim 21 further comprising creating a task including:
configuring a maximum use duration of the central resource unit during the observation window;
configuring the sanction to be eventually applied to the task; and
launching surveillance of the task.

23. (Previously Presented) The method according to claim 22 wherein surveillance of the task is inhibited when the task is terminated.

24. (Previously Presented) The method according to claim 21 further comprising switching from the task to another task, wherein switching includes:

- dating an event associated with the switching;
- recording starting time of the another task;
- calculating time spent by the task during the observation window; and
- applying a sanction is applied if the time spent by the task is longer than the maximum allocated time in the observation window.

25. (Previously Presented) The method according to claim 21 further comprising managing a clock impulse, the managing including:

- calculating time spent by the task;
- sanctioning the task if the time spent by the task is longer than the maximum allocated time for the observation window.

26. (Previously Presented) The method according to claim 21 further comprising managing an observation window including:

- setting time spent by the task at a beginning of the observation window to a value of zero;
- and
- rehabilitating the task which has been sanctioned.

27. (Previously Presented) The method according to claim 15 wherein the avionic computer comprises an Air Traffic Service Unit calculator.

28. Canceled.

29. (Previously Presented) A real time multi-task operating system utilized by an avionic computer comprising:

a surveillance module which enables a surveillance parameterization, the surveillance module configured to date events and control use of a central resource unit, the surveillance module capable of sanctioning a task and providing information on a status of the task;

a functions interface accessible by a supervision task;

a time management unit; and

a scheduler configured to guarantee a desired amount of processing time for a lower priority task in each processing window, wherein a particular is sanctioned to a subsequent processing window when a time quota allotted to the particular task is exceeded.